short space of time, so that a much larger volume of air can be conveniently operated upon than is the case with Hesse's method. Thus whilst the aspiration of 10 litres of air through Hesse's apparatus takes about three-quarters of an hour, by the new method about 48 litres can be drawn through the tube in the same time, whilst a better plan is to take two tubes and alternately draw a definite volume of air through each, as by this means duplicate results are obtained.

5. As the whole plug, upon which the organisms from a given volume of air are deposited, is submitted to cultivation without subdivision, no error is introduced through the multiplication of results obtained from aliquot parts, and all the great difficulties attending equal subdivision are avoided.

6. The risk of aërial contamination in the process of *flask-cultivation* is practically *nil*.

7. The apparatus required being very simple and highly portable, the method is admirably adapted for the performance of experiments at a distance from home, and in the absence of special laboratory appliances.

III. "Further Experiments on the Distribution of Micro-organisms in Air (by Hesse's method)." By PERCY F. FRANKLAND, Ph.D., B.Sc., F.I.C., F.C.S., and T. G. HART, A.R.S.M. Communicated by Professor FRANKLAND, D.C.L., F.R.S. Received November 22, 1886.

(Abstract.)

The authors record a number of experiments, made with Hesse's apparatus, on the prevalence of micro-organisms in the atmosphere. The results are intended to form a supplement to those already obtained by one of the authors, and published in the last volume of the Society's 'Proceedings' (vol. 40, p. 509). The greater number of the experiments have been performed on the roof of the Science Schools, South Kensington, the air of which has now been under observation at frequent intervals during the present year. The authors point out the variations according to season, which have taken place in the number of micro-organisms present in the air collected in the above place. The average results obtained were as follows:—

1886.	Average number of micro-organisms found in 10 litres of air by Hesse's method.
January	4
March	26
May	31
June	54
July	63
August	105
September	43
October	35

Experiments are also recorded showing the enormous increase in the number of micro-organisms present in the air of rooms consequent on crowding. In illustration of this point the authors cite a series of experiments made in the Library of the Royal Society during the evening of the conversazione in June last, on which occasion the following results were obtained:—

Royal Society's Library.	Number of micro-organisms found in 10 litres of air.
June 9, 1886.	
9.20 p.m.	326
10.5 „	432
June 10, 1886.	
10.15 a.m.	130

In addition to determining the number of organisms present in a given volume of air, the authors have also, in each case, roughly estimated the number falling on a given horizontal surface by exposing dishes filled with nutrient gelatine and of known superficial area, as in the experiments previously published.

IV. "On the Intra-ovarian Egg of some Osseous Fishes." By ROBERT SCHARFF, Ph.D., B.Sc. Communicated by Professor MCINTOSH, F.R.S. Received November 17, 1886.

(Abstract.)

These researches were carried out while acting as assistant to Professor McIntosh, at the St. Andrew's Marine Laboratory. The chief material consisted of the intra-ovarian ovum of the gurnard (*Trigla gurnardus*). Many other marine forms, however, were examined.

The paper has been divided into the following five paragraphs:—